

EXHIBIT 48

	Disputed CLI Command or Command Fragment	Number of Top 5 Competitors To Cisco Supporting Command
1.	boot system	5
2.	clock set	5
3.	ip address	5
4.	ipv6 address	5
5.	ipv6 route	5
6.	show clock	5
7.	show interfaces	5
8.	show ip bgp	5
9.	show ip bgp neighbors	5
10.	show ip interface	5
11.	show ip mroute	5
12.	show ip ospf	5
13.	show ip ospf border-routers	5
14.	show ip ospf interface	5
15.	show ip pim interface	5
16.	show ip pim neighbor	5
17.	show ip route	5
18.	show users	5
19.	show version	5
20.	snmp-server community	5
21.	snmp-server contact	5
22.	snmp-server enable traps	5
23.	snmp-server group	5
24.	snmp-server host	5
25.	snmp-server location	5
26.	snmp-server user	5
27.	snmp-server view	5
28.	aaa accounting	4
29.	aaa authentication login	4
30.	aggregate-address	4
31.	area nssa	4
32.	area range	4
33.	area stub	4
34.	banner motd	4
35.	clock timezone	4
36.	default-information originate (OSPF)	4
37.	interface ethernet	4
38.	ip access-group	4
39.	ip igmp query-interval	4
40.	ip nat pool	4
41.	ip ospf cost	4
42.	ip ospf dead-interval	4
43.	ip ospf hello-interval	4
44.	ip ospf priority	4
45.	ip ospf retransmit-interval	4
46.	ip ospf transmit-delay	4

47.	ip prefix-list	4
48.	ip proxy-arp	4
49.	ip route	4
50.	ipv6 access-list	4
51.	ipv6 neighbor	4
52.	lacp port-priority	4
53.	neighbor remote-as	4
54.	neighbor route-reflector-client	4
55.	neighbor timers	4
56.	ntp server	4
57.	route-map	4
58.	router bgp	4
59.	router rip	4
60.	show arp	4
61.	show ip bgp peer-group	4
62.	show ip bgp summary	4
63.	show ip igmp groups	4
64.	show ip interface brief	4
65.	show ip nat translations	4
66.	show ip ospf neighbor	4
67.	show ip pim rp-hash	4
68.	show ip route summary	4
69.	show ipv6 interface	4
70.	show ipv6 neighbors	4
71.	show ipv6 route	4
72.	show ntp status	4
73.	show reload	4
74.	show route-map	4
75.	show snmp group	4
76.	show snmp user	4
77.	show spanning-tree	4
78.	show tacacs	4
79.	show vlan	4
80.	show vrrp	4
81.	tacacs-server host	4
82.	tacacs-server key	4
83.	tacacs-server timeout	4
84.	terminal length	4
85.	address-family	3
86.	area nssa (OSPFv3)	3
87.	area range (OSPFv3)	3
88.	area stub (OSPFv3)	3
89.	arp timeout	3
90.	bgp cluster-id	3
91.	bgp redistribute internal	3
92.	channel-group	3
93.	clear arp-cache	3
94.	clear counters	3
95.	clear ipv6 neighbors	3
96.	default-information originate (OSPFv3)	3
97.	default-metric (OSPF)	3

98.	default-metric (OSPFv3)	3
99.	dot1x port-control	3
100.	errdisable recovery cause	3
101.	errdisable recovery interval	3
102.	interface loopback	3
103.	interface vlan	3
104.	ip access-list	3
105.	ip access-list standard	3
106.	ip as-path access-list	3
107.	ip community-list standard	3
108.	ip domain lookup	3
109.	ip domain-name	3
110.	ip helper-address	3
111.	ip igmp last-member-query-interval	3
112.	ip igmp static-group	3
113.	ip igmp version	3
114.	ip multicast-routing	3
115.	ip name-server	3
116.	ip nat translation tcp-timeout	3
117.	ip nat translation udp-timeout	3
118.	ip ospf authentication-key	3
119.	ip ospf network	3
120.	ip pim dr-priority	3
121.	ipv6 nd managed-config-flag	3
122.	ipv6 nd ns-interval	3
123.	ipv6 nd other-config-flag	3
124.	ipv6 nd ra interval	3
125.	ipv6 nd reachable-time	3
126.	ipv6 ospf area	3
127.	ipv6 prefix-list	3
128.	isis hello-interval	3
129.	isis hello-multiplier	3
130.	isis metric	3
131.	isis priority	3
132.	is-type	3
133.	lldp run	3
134.	mac access-group	3
135.	mac-address-table aging-time	3
136.	maximum-paths	3
137.	neighbor activate	3
138.	neighbor ebgp-multipath	3
139.	neighbor local-as	3
140.	neighbor next-hop-self	3
141.	neighbor password	3
142.	neighbor remove-private-as	3
143.	neighbor route-map	3
144.	neighbor send-community	3
145.	neighbor shutdown	3
146.	neighbor update-source	3
147.	neighbor weight	3
148.	no snmp-server	3

149.	router ospf	3
150.	set-overload-bit	3
151.	show ip access-lists	3
152.	show ip igmp interface	3
153.	show ip prefix-list	3
154.	show ipv6 access-list	3
155.	show ipv6 ospf interface	3
156.	show isis database	3
157.	show lacp counters	3
158.	show lldp neighbors	3
159.	show mac-address-table	3
160.	show mac-address-table aging time	3
161.	show monitor session	3
162.	show port-security	3
163.	show privilege	3
164.	show radius	3
165.	show snmp engineID	3
166.	snmp-server engineID local	3
167.	spanning-tree link-type	3
168.	switchport access vlan	3
169.	switchport trunk allowed vlan	3
170.	switchport trunk native vlan	3
171.	terminal monitor	3
172.	area nssa default-information-originate	2
173.	area nssa default-information-originate (OSPFv3)	2
174.	area nssa no-summary	2
175.	banner login	2
176.	bgp client-to-client reflection	2
177.	clear ip arp	2
178.	clear ip bgp	2
179.	clear ip mroute	2
180.	clear ip msdp sa-cache	2
181.	clear ip ospf neighbor	2
182.	clear mac-address-table dynamic	2
183.	clear spanning-tree counters	2
184.	domain-id	2
185.	dot1x reauthentication	2
186.	dot1x timeout reauth-period	2
187.	dot1x timeout tx-period	2
188.	interface port-channel	2
189.	ip icmp redirect	2
190.	ip igmp query-max-response-time	2
191.	ip igmp snooping	2
192.	ip load-sharing	2
193.	ip multicast boundary	2
194.	ip pim bsr-candidate	2
195.	ip pim rp-address	2
196.	ip pim rp-candidate	2
197.	ip radius source-interface	2
198.	ip routing	2
199.	ip tacacs source-interface	2

200.	ipv6 dhcp relay destination	2
201.	ipv6 enable	2
202.	ipv6 nd ra lifetime	2
203.	ipv6 ospf cost	2
204.	ipv6 ospf dead-interval	2
205.	ipv6 ospf hello-interval	2
206.	ipv6 ospf network	2
207.	ipv6 ospf priority	2
208.	ipv6 ospf retransmit- interval	2
209.	ipv6 ospf transmit-delay	2
210.	ipv6 router ospf	2
211.	isis lsp-interval	2
212.	isis passive	2
213.	lacp system-priority	2
214.	load-interval	2
215.	log-adjacency-changes (IS-IS)	2
216.	logging host	2
217.	mac-address-table static	2
218.	maximum-paths (OSPFv3)	2
219.	neighbor default-originate	2
220.	neighbor description	2
221.	neighbor peer-group (assigning members)	2
222.	neighbor peer-group (creating)	2
223.	ntp authenticate	2
224.	ntp authentication-key	2
225.	radius-server host	2
226.	radius-server key	2
227.	radius-server timeout	2
228.	router isis	2
229.	router-id	2
230.	show dot1x	2
231.	show dot1x statistics	2
232.	show hosts	2
233.	show interfaces switchport	2
234.	show ip bgp community	2
235.	show ip bgp paths	2
236.	show ip bgp regexp	2
237.	show ip community-list	2
238.	show ip extcommunity-list	2
239.	show ip helper-address	2
240.	show ip igmp snooping	2
241.	show ip igmp snooping mrouter	2
242.	show ip msdp peer	2
243.	show ip msdp sa-cache	2
244.	show ip msdp summary	2
245.	show ip ospf database database-summary	2
246.	show ip pim rp	2
247.	show ip rip database	2
248.	show ipv6 ospf	2
249.	show ipv6 ospf border-routers	2
250.	show ipv6 ospf neighbor	2

251.	show ipv6 route summary	2
252.	show lldp	2
253.	show mac-address-table count	2
254.	show module	2
255.	show ntp associations	2
256.	show qos maps	2
257.	show snmp	2
258.	show snmp community	2
259.	show snmp trap	2
260.	show snmp view	2
261.	show spanning-tree interface	2
262.	show spanning-tree mst configuration	2
263.	show spanning-tree mst interface	2
264.	show storm-control	2
265.	show vrf	2
266.	spanning-tree bpduguard	2
267.	spanning-tree cost	2
268.	spanning-tree mode	2
269.	spanning-tree mst configuration	2
270.	spf-interval	2
271.	storm-control	2
272.	switchport mode	2
273.	timers basic (RIP)	2
274.	timers bgp	2
275.	aaa authorization config-commands	1
276.	area default-cost	1
277.	area default-cost (OSPFv3)	1
278.	bfd all-interfaces	1
279.	bgp confederation identifier	1
280.	bgp confederation peers	1
281.	bgp log-neighbor-changes	1
282.	clear ip igmp group	1
283.	clear ip nat translation	1
284.	control-plane	1
285.	default-metric	1
286.	distance bgp	1
287.	domain-name	1
288.	dot1x system-auth-control	1
289.	dot1x timeout quiet-period	1
290.	enable secret	1
291.	ip dhcp snooping	1
292.	ip dhcp snooping vlan	1
293.	ip host	1
294.	ip igmp last-member-query-count	1
295.	ip igmp query-interval-response-time	1
296.	ip igmp snooping querier	1
297.	ip igmp startup-query-count	1
298.	ip igmp startup-query-interval	1
299.	ip local-proxy-arp	1
300.	ip ospf authentication	1
301.	ip ospf shutdown	1

302.	ip pim bsr-border	1
303.	ip pim query-interval	1
304.	ip pim sparse-mode	1
305.	ip pim spt-threshold	1
306.	ip pim spt-threshold group-list	1
307.	ip pim ssm range	1
308.	ipv6 access-group	1
309.	ipv6 host	1
310.	ipv6 nd ra suppress	1
311.	ipv6 unicast-routing	1
312.	lldp holdtime	1
313.	lldp receive	1
314.	lldp timer	1
315.	lldp transmit	1
316.	log-adjacency-changes	1
317.	log-adjacency-changes (OSPFv3)	1
318.	mac access-list	1
319.	mac-address	1
320.	neighbor allowas-in	1
321.	neighbor peer-group	1
322.	neighbor soft-reconfiguration	1
323.	network area	1
324.	ntp source	1
325.	ntp trusted-key	1
326.	passive-interface	1
327.	passive-interface (OSPFv3)	1
328.	port-channel load-balance	1
329.	private-vlan	1
330.	radius-server deadtime	1
331.	radius-server retransmit	1
332.	redundancy force-switchover	1
333.	router-id (OSPFv3)	1
334.	show environment all	1
335.	show environment power	1
336.	show environment temperature	1
337.	show interfaces description	1
338.	show interfaces flowcontrol	1
339.	show interfaces status	1
340.	show interfaces transceiver	1
341.	show inventory	1
342.	show ip arp	1
343.	show ip dhcp snooping	1
344.	show ip igmp snooping groups	1
345.	show ip mroute count	1
346.	show ip ospf request-list	1
347.	show ip ospf retransmission-list	1
348.	show ipv6 bgp	1
349.	show ipv6 bgp neighbors	1
350.	show ipv6 bgp summary	1
351.	show ipv6 prefix-list	1
352.	show isis interface	1

353.	show isis topology	1
354.	show mac access-lists	1
355.	show port-channel summary	1
356.	show port-security interface	1
357.	show spanning-tree blockedports	1
358.	show spanning-tree mst	1
359.	show track	1
360.	show vlan internal usage	1
361.	show vlan private-vlan	1
362.	snmp-server chassis-id	1
363.	spanning-tree bpdufilter	1
364.	spanning-tree guard	1
365.	spanning-tree portfast bpdufilter default	1
366.	spanning-tree portfast bpduguard default	1
367.	spanning-tree port-priority	1
368.	spanning-tree vlan	1
369.	switchport port-security	1
370.	switchport private-vlan mapping	1
371.	timers throttle spf	1
372.	vrrp preempt	1
373.	vrrp priority	1
374.	vrrp track	1

Vendors analyzed for this chart include Hewlett Packard Enterprise, Brocade Communications, Alcatel/ALU, Juniper Networks, and Extreme Networks (including Enterasys Networks)